SEVENTEEN-YEAR SINGLE-CENTRE EXPERIENCE WITH THE ROSS PROCEDURE: FULFILLING THE PROMISE OF A LONG-LASTING OPTION WITHOUT ANTICOAGULATION?

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Objectives: The performance of the Ross procedure in adult patients <60 years with aortic valve disease provides an attractive alternative to a prosthetic aortic valve. The Ross procedure is able to establish a haemodynamically ideal aortic valve replacement. A potential drawback may be long-term durability, which varies considerably between series.

Methods: Between 1996 and 2013, 206 patients (mean age 43 ± 10 years) underwent an elective Ross procedure in our department. In 78% (n = 161) of patients a bicuspid valve was found. Patients were examined clinically and with echocardiography during follow-up. Mean follow-up was 7.9 ± 5 years and was 98% complete.

Results: Thirty-day mortality was 2.4% (n = 5). The Kaplan-Meier survival rate at 10 and 15 years were 91% and 85%, respectively. In 17 patients (8.3%) the pulmonary autograft had to be reoperated: 12 of them could be reconstructed; only 5 patients underwent a prosthetic valve replacement. Freedom from reoperation for autograft failure was 93%, freedom from moderate or severe autograft regurgitation was 87% at 10 years. Thromboembolic events occurred in 9 patients (4.4%) and were mostly related to atrial fibrillation. Endocarditis involving the pulmonary autograft was observed in 6 patients (2.9%).

Conclusion: Pulmonary autograft aortic root replacement to treat patients with severe aortic valve dysfunction is a challenging procedure. Reoperation rate is higher compared to mechanical valve replacement; however, in the majority of patients with reoperation the autograft could be saved in our series. Valve-related complications are rare.